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Energy, Environment, and National Security (EENS)

EMS MANUAL

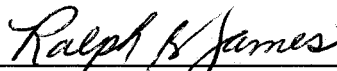
REV. 9

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Introduction

The document defines how the Energy, Environment & National Security (EENS) Directorate executes and maintains an Environmental Management System (EMS) in a manner that complements the BNL EMS (add link) and supports the BNL Environmental Safety Security & Health (ESSH) Policy.

Environmental Policy

It is the policy of this Directorate to achieve its mission, respond to customer needs, and support its staff in a manner that complies with the Laboratory's ESSH Policy. The BNL ESSH Policy is on the BNL Web-Site, and is posted in EENS buildings. The policy is discussed in the Environmental Protection Training Web course, which is required training for all employees and guests.

Scope

The EENS Environmental Management System encompasses all activities at BNL managed or controlled by this Directorate, and all employees and guests. Any products or services that might be generated as a result of these activities are also considered within the scope of our EMS. The EENS Directorate includes the Energy Science and Technology Department, the Department of Environmental Sciences, and the Nonproliferation/National Security Department. Work performed within other Departments/Divisions by EENS personnel, or work performed in EENS buildings by personnel from other organizations (such as Plant Engineering) is not included in the scope of this EMS. The EENS EMS does not cover work that is performed off-site.

The Department of Environmental Sciences is comprised of the Atmospheric Sciences Division, and the Environmental Research & Technology Division. The environmental programs include atmospheric physics and chemistry, carbon cycle research, plant ecology, and bioremediation. These efforts respond to the Department of Energy's mission to study the transport and fate of energy-related pollutants and also the effects of those pollutants on global climate and human health.

The Energy Sciences and Technology Department is Brookhaven Laboratory's focal point for applied energy research, development, demonstration and deployment (RDD&D) activities for renewable, fossil and nuclear systems. Our mission is to perform basic science, analyses and technology development that provide innovative solutions to some of the world's most important energy challenges. Our staff works with other experts at BNL and government laboratories, industry and academia to support Department of Energy strategic goals.

The Nonproliferation/National Security Department focuses on nuclear materials safeguards and security; integrated material control and accountability, physical protection, records and reporting, arms control verification and technical support in non-nuclear areas. The NNS Department is currently working on technology for counter-terrorism, critical infrastructure protection, and advanced detector development and testing. The mission of the Nonproliferation and National Security Department is to carry out research and development, provide technical support, and build prototype systems in order to further U.S. Government initiatives and policies in nuclear materials safeguards and security.

Approach/Strategy

BNL emphasizes the Laboratory's specific commitments through issuance of a BNL Environmental, Safety, Security and Health (ESSH) Policy. We will commit to this policy by adapting the Laboratory's EMS into a framework consistent with operations across this Directorate. This program is coordinated through the Research Operations Office of EENS, specifically by the Manager and the EENS EMS Management Representatives (EMS Reps). The EENS ESH Committee supports the Reps and includes representative staff offering operational knowledge and experience. The members of the Committee are identified on the Research Operations Web Site.

ISO 14001 REQUIREMENTS	BNL PROGRAM ELEMENTS	EENS PROGRAM ELEMENTS
<p>4.1 GENERAL REQUIREMENTS The organization shall establish, document, implement, maintain and continually improve an environmental management system in accordance with the requirements of this International Standard and determine how it will fulfill these requirements.</p> <p>The organization shall define and document the scope of its environmental management system.</p>	<p>BNL Standards Based Management System (SBMS)</p>	<p>This Document specifies the elements of the EENS Directorate's EMS.</p>
<p>4.2 ENVIRONMENTAL POLICY Top management shall define the organization's environmental policy and ensure that, within the defined scope of its environmental management system, it</p> <ul style="list-style-type: none"> a) is appropriate to the nature, scale and environmental impacts of its activities, products and services; b) includes a commitment to continual improvement and prevention of pollution; c) includes a commitment to comply with applicable legal requirements, and with other requirements to which the organization subscribes which relate to its environmental aspects; d) provides the framework for setting and reviewing environmental objectives and targets; e) is documented, implemented and maintained, f) is communicated to all persons working for or on behalf of the organization, and g) is available to the public. 	<p>Environmental Safety, Security & Health Policy (ESSH)</p> <p>EMS Management System Description (MSD)</p> <p>BNL Web site (policy is posted in several locations)</p> <p>Policy is published in annual Site Environmental Report</p> <p>Policy is internally communicated via postings, brochures, and training given to staff, guests and contractors.</p>	<p>The ESSH policy is communicated to EENS staff through postings, brochures and the Environmental Protection <u>Web-Based Training</u> course.</p> <p>The EENS Directorate established the <u>Research Operations Office</u>, whose mission includes providing guidance, oversight, direction and coordination in the implementation of laboratory policy for achieving excellence in Environmental, Safety and Health consistently throughout the Directorate.</p>

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<p>4.3 PLANNING</p> <p>4.3.1 Environmental Aspects The organization shall establish and maintain a procedure(s)</p> <p>a. to identify the environmental aspects of its activities, products and services within the defined scope of the environmental management system that it can control and those that it can influence taking into account planned or new developments, or new or modified activities, products and services, and</p> <p>b. to determine those aspects that have or can have significant impact(s) on the environment (i.e. significant environmental aspects).</p> <p>The organization shall document this information and keep it up to date.</p> <p>The organization shall ensure that the significant environmental aspects are taken into account in establishing, implementing and maintaining its environmental management system.</p>	<p>Identification of Significant Environmental Aspects and Impacts Subject Area</p> <p>Process Assessment Subject Area</p> <p>Work Planning and Control for Experiments and Operations:</p> <ul style="list-style-type: none"> • Experimental Safety Review • Work Planning and Control for Operations • NEPA Reviews • PIQs <p>Hazard Analysis</p>	<p>The processes primarily used by EENS to identify Significant Environmental Aspects are "Experimental Safety Review" (ESR) and "Work Planning and Control for Operations", per the <u>Work Planning and Control for Experiments and Operations</u> Subject Area.</p> <ul style="list-style-type: none"> • The EENS Experiment Review Team, which includes the Environmental Compliance Representative (ECR) and the EMS Rep, reviews the environmental implications of experimental activities in Experiment Safety Review (ESR) documents. • Significant environmental aspects associated with products and services stemming as a result of EENS experimental operations will be ascertained thru the Work Planning and Control for Experiments and Operations by the ECR. • The ECR assists the Work Control Coordinator/Manager, as needed, in the review of Work Permits. • The experiment safety review/approval process includes the concurrence of the ERC, Review Team members, SMEs as appropriate, and approval by the Department Chair. • The work-permit review process includes the concurrence of the Work Control Coordinator/Manager and ECR, as appropriate. • Relevant aspect information identified through the work planning process is entered into the EENS Significant Aspects List by the ECR for each activity after the review is completed per the Subject Area. • Both ESR and Work Permit documents are prepared and reviewed before work begins; and are updated annually if the experiment or work activity continues beyond 12 months. The EENS Experimental Review Coordinator (ERC)/Work Control Manager coordinates these activities. <p>Industrial processes are reviewed by the ECR, and the respective Process Assessment Forms (PAFs) are created accordingly. PAFs are reviewed annually.</p> <p>Relevant operational controls are integrated into <u>Facility Use Agreements</u> (FUAs) where building/facility-specific historical information and buildings/facility requirements are applicable. Changes in FUAs are coordinated by the Facility Manager within the Research Operations Office after conference with the EMS Representatives.</p> <p>The ECR is the subject matter expert (SME) on environmental issues. The ECR updates/maintains the Significant Aspects List as part of her/his support to <u>Research Operations</u>.</p> <p>Modifications to the Significant Aspects List by the ECR are communicated to the EENS ESH Committee at meetings. Significant aspects are communicated to the line organization via the Experimental Safety Review and/or Work Permit process. Significant aspects associated with the industrial processes are identified in the <u>PAF forms</u>, which are reviewed by the point-of-contact for the process.</p>

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<p>4.3.2 Legal and Other Requirements</p> <p>The organization shall establish, implement and maintain a procedure(s)</p> <ol style="list-style-type: none"> to identify and have access to the applicable legal requirements and other requirements to which the organization subscribes related to its environmental aspects, and to determine how these requirements apply to its environmental aspects. <p>The organization shall ensure that these applicable legal requirements and other requirements to which the organization subscribes are taken into account in establishing, implementing and maintaining its environmental management system.</p>	<p>SBMS Management System</p> <p>EMS Management System</p> <p>Requirements Management Subject Area</p> <p>SBMS Subject Areas</p> <p>EWMSD internal procedures</p>	<ul style="list-style-type: none"> The EMS Rep and the ECR subscribe to the SBMS change notification subscription service. The ECR also receives updates to requirements in <u>Environmental & Waste Management Services Division (EWMSD)</u> subject-matter meetings, and communicates new or revised requirements to the EMS Reps. The ECR works with the EMS Reps to determine how the change affects the directorate, what needs to be implemented, and how the affected individuals are notified. Changes are communicated via e-mail from the Research Operations Office, as well as through memos and meetings, as appropriate. In most cases, the affected activities and staff in the Directorate are identified through the Experiment Safety Review process and in Process Assessment Form (PAF) development. The ES&H Management Plan(s) and Operational Control Forms (OCFs) are updated to reflect the new or revised requirements. The EENS ESH Committee reviews these updated documents.
<p>4.3.3 Objectives, Targets, and Programs</p> <p>The organization shall establish, implement and maintain documented environmental objectives and targets, at relevant functions and levels within the organization.</p> <p>The objectives and targets shall be measurable, where practicable, and consistent with the environmental policy, including the commitments to pollution prevention, to compliance with legal requirements and with other requirements to which the organization subscribes, and to continual improvement.</p> <p>When establishing and reviewing its objectives and targets, an organization shall take into account the legal requirements and other requirements to which the organization subscribes, and its significant environmental aspects. It shall also consider its technological options, its financial, operational and business requirements, and the views of interested parties.</p> <p>The organization shall establish, implement and maintain a program for achieving its objectives and targets. Program shall include</p> <ol style="list-style-type: none"> designation of responsibility for achieving objectives and targets at relevant functions and levels of the organization, and the means and time-frame by which they are to be achieved. 	<p>Integrated Planning Management System Description</p> <p>Contract performance measures – Performance Evaluation and Measurement Plan - Appendix B [of DOE/BSA Contract]</p> <p>Identification of Significant Environmental Aspects and Impacts Subject Area</p> <p>BNL Project, Planning, Programming, & Budgeting Process (3BPB)</p> <p>Integrated Assessments Subject Area</p>	<p>EENS establishes objectives and targets at the Directorate level in line with the Laboratory-level Environmental Objectives and Targets. The BNL Environmental Objectives & Targets reflects relevant critical outcomes/performance measures and takes into account legal requirements and the views of interested parties at the Lab-level. EENS considers financial, operational, and business requirements, stakeholders and technological options when establishing objectives.</p> <p>Goals and objectives are reviewed/revised/approved at least annually via meetings and assessment activities, as appropriate. EENS Objectives and targets are documented in ES&H Management Plan(s) and are reviewed by the ESH Committee. ES&H Management Plan(s) may be modified when the ECR and EMS Reps identify new or modified requirements relevant to the EENS operations, or if circumstances change. The EENS Directorate specifies the steps for achieving environmental objectives and targets in ES&H Management Plan(s). The ES&H Management Plan(s) list Objectives and Targets, the means, time frame and designation of responsibility, and are maintained and located within the <u>Research Operations Office</u>.</p> <p>In addition:</p> <ul style="list-style-type: none"> Self-assessment activities such as Tier I inspections and annual compliance assessments/audits are indicators for compliance. The ECR/EMS Reps maintain a tracking system for environmental corrective actions & improvement opportunities identified during reviews. The ECR/EMS Reps track progress/completion of performance measures/tasks identified in ES&H Management Plan(s). Mid-year changes may be required if a new aspect is identified or circumstances change. EENS Management provides concurrence of ESH Management Plan(s). EENS EMS implementation is reviewed via the Management Review.

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4.4 IMPLEMENTATION AND OPERATION		
4.4.1 Resources, Roles, Responsibility and Authority Management shall ensure the availability of resources essential to establish, implement, maintain and improve the environmental management system. Resources include human resources and specialized skills, organizational infrastructure, technology and financial resources. Roles, responsibility and authorities shall be defined, documented and communicated in order to facilitate effective environmental management. The organization's top management shall appoint a specific management representative(s) who, irrespective of other responsibilities, shall have defined roles, responsibilities and authority for: a) ensuring that an environmental management system is established, implemented and maintained in accordance with the requirements of this international standard, b) reporting to top management on the performance of the environmental management system for review including recommendations for improvement.	Environmental Management System Human Resources Management System Description SBMS R2A2 Profiles & Human Resources internal procedures Management Representative on EMS R2A2 Work Planning & Control Subject Area	EENS Management designated EMS Representatives, with specific R2A2s. EMS functions in the EENS Directorate are coordinated through the EENS <u>Research Operations Office</u> . The EMS Representatives communicate system performance and necessary modifications: i) to the ALD and to the Department Chairs annually via the Management Review and at management meetings when necessary and ii) to Directorate staff at meetings and/or by e-mail, when necessary. Specific responsibilities are identified in this Manual or other EMS documents. Environmental responsibilities are included in each of the staff's R2A2. Line management is ultimately responsible for the identification and communication of environmental hazards. This is accomplished by the reporting of new experiments or modifications to existing activities to the Experimental Review Coordinator/Work Control Coordinator as required by the Work Planning & Control Subject Area.
4.4.2 Competence, Training And Awareness The organization shall ensure that any person(s) performing tasks for its behalf that have the potential to cause a significant environmental impact(s) identified by the organization is (are) competent on the basis of appropriate education, training or experience, and shall retain associated records. The organization shall identify training needs associated with its environmental aspects and its environmental management system. It shall provide training or take other action to meet these needs, and shall retain associated records. The organization shall establish, implement and maintain a procedure(s) to make persons working for it or on its behalf aware of a) the importance of conformity with the environmental policy and procedures and with the requirements of the EMS; b) the significant environmental impacts, actual or potential, of their work activities and the environmental benefits of improved personal performance; c) their roles and responsibilities in achieving conformity with the requirements of the environmental management system, and d) the potential consequences of departure from specified procedures.	Training and Qualifications Management System Training and Qualification Subject Area Guests & Visitors Subject Area Brookhaven Training Management System (BTMS) Human Resources Management System	Personnel are hired based on education, experience and training. EENS Line Managers and Supervisors, utilizing BNL guidance as appropriate, are responsible for identifying their staff's training needs, and ensuring that staff are trained and qualified for work assigned All staff receives Environmental Protection Training as new employees. Additional training is primarily identified by their supervisor when staff is hired and/or during the Work Planning Process. During the work planning, workers are made aware of actual or potential significant aspects/impacts Supervisors ensure that requisite training for staff/guests is identified and kept current and complete. Required training is documented via Job Training Assessments (JTAs) and tracked through the BNL Brookhaven Training Management System (BTMS) database.

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<p>4.4.3 Communication</p> <p>With regard to its environmental aspects and EMS, the organization shall establish, implement and maintain a procedure(s) for:</p> <ol style="list-style-type: none"> internal communication between the various levels and functions of the organization; receiving, documenting and responding to relevant communication from external interested parties. <p>The organization shall decide whether to communicate externally about its significant environmental aspects, and shall document its decision. If the decision is to communicate, the organization shall establish and implement a method(s) for this external communication.</p>	<p>External Communications Management System Internal Communications Management System BNL Community Outreach Plan Correspondence and Commitment Tracking Subject Area (CCTS) BNL Environment, Safety, Security and Health WebPages Community Involvement in Laboratory Issues Subject Area Community Involvement Plan Internal: Monday Memo, Brookhaven Bulletin External: Brookhaven Exec. Roundtable, (BER), Community Advisory Committee (CAC), Summer Sundays, Envoy Program.</p>	<p>Information is communicated as needed to the staff through meetings such as Direct Reports/Staff, Divisional Meetings, All-Hands Meetings, inspections and walk-throughs, memos/e-mail, various web pages. Official correspondence and requests for commitments from stakeholders are controlled/coordinated through the guidance provided in the SBMS Subject Area, <u>Correspondence and Commitment Tracking</u>.</p> <p>In addition:</p> <ul style="list-style-type: none"> The EMS Reps are responsible for communications relevant to the maintenance/implementation of the EENS EMS. The Executive Assistant and the Special Assistant to the ALD for the Directorate have been appointed as Correspondence and Commitment Tracking (CCTS) administrators. They have been briefed on the system and are authorized to access the CCTS in accordance with the CCTS Subject Area.
<p>4.4.4 Documentation</p> <p>The environmental management system documentation shall include</p> <ol style="list-style-type: none"> the environmental policy, objectives and targets description of the scope of the environmental management system, description of the main elements of the environmental management system and their interaction, and reference to related documents, documents, including records, required by this international standard <p>documents, including records, determined by the organization to be necessary to ensure the effective planning, operation and control of processes that relate to its significant environmental aspects.</p>	<p>BNL ISO 14001 "Plus" Environmental Management System Manual EMS Management System</p>	<p>The BNL ISO 14001 Plus Environmental Management System Manual establishes and describes the EMS System and interactions, and provides direction to related documentation.</p> <p>This document (viz., the EENS EMS Manual) outlines the EMS specific to this Directorate. The EMS Manual and attachments are kept in the EENS Research Operations Office. The official copy is located on the EENS ESH Web Page maintained by the Research Operations Office. (under <u>Environmental Management</u>).</p>
<p>4.4.5 Control of Documents</p> <p>Documents required by the environmental management system and by this International Standard shall be controlled. Records are a special type of document and shall be controlled in accordance with the requirements given in 4.5.4.</p> <p>The organization shall establish, implement and maintain a procedure(s) to</p> <ol style="list-style-type: none"> approve documents for adequacy prior to issue, review and update as necessary an re-approve documents, ensure that changes and the current revision status of documents are identified, ensure that relevant versions of applicable documents are available at points of use, ensure that documents remain legible and readily identifiable, ensure that documents of external origin determined by the organization to be necessary for the planning and operation of the environmental management system are identified and their distribution controlled, and <p>Prevent the unintended use of obsolete documents and apply suitable identification to them if they are retained for any purpose.</p>	<p>SBMS Documents Subject Area Internal Controlled Documents Subject Area Records Management Subject Area</p>	<p>Document control within EENS is implemented as per the requirements in the BNL Subject Area, <u>Internal Controlled Documents</u>. EMS Documentation is maintained and controlled at several locations, depending on the document and applicability across the Directorate.</p> <ul style="list-style-type: none"> Links to major EMS documents are provided via the <u>EENS Research Operations Office Web Page</u> A list of EMS Controlled Documents is in <u>Attachment 1</u>, which includes the cognizant manager, review schedule, and location as appropriate. The EMS Reps/ECR are responsible for the maintenance and approval of EMS documents, and for notifying the appropriate staff upon modification. Retention period guidance is provided through the <u>Records Management Subject Area</u>.

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<p>4.4.6 Operational Control</p> <p>The organization shall identify and plan those operations and activities that are associated with the identified significant environmental aspects consistent with its environmental policy, objectives and targets in order to ensure that they are carried out under specified conditions, by</p> <ol style="list-style-type: none"> establishing, implementing and maintaining documented procedures to control situations where their absence could lead to deviations from the environmental policy, objectives and targets and stipulating operating criteria in the procedures, and establishing, implementing and maintaining procedures related to the identified significant environmental aspects of goods and services used by the organization and communicating relevant procedures and requirements to suppliers and contractors. 	<p>SBMS Subject Areas</p> <p>Identification of Significant Environmental Aspects and Impacts Subject Area</p> <p>Work Planning and Control for Experiments and Operations Subject Area</p> <p>Internal Controlled Documents Subject Area</p> <p>Process Assessment Subject Area</p> <p>Procurement & Property Management Division - procurement policy</p> <p>Operational Readiness Evaluation</p> <p>NEPA review</p> <p>PIQs</p> <p>BNL Procurement Operations Manual</p>	<ul style="list-style-type: none"> Experimental and industrial processes having significant environmental aspects are identified through the use of Process Assessments and Work Planning and Control as per the relevant SBMS Subject Area. Operational controls are identified and documented in <u>Operational Control Forms (OCFs)</u> for activities with significant aspects. Operational controls that are associated with building or facility operations are described in <u>Facility Use Agreements</u> The Procurement and Property Management Division ensures that requirements and relevant procedures are communicated to suppliers and contractors of goods/services with significant aspects (see BNL Procurement Operations Manual).
<p>4.4.7 Emergency Preparedness and Response</p> <p>The organization shall establish, implement and maintain procedures to identify potential emergency situations and potential accidents that can have an impact(s) on the environment and how it will respond to them.</p> <p>The organization shall respond to actual emergency situations and accidents and prevent or mitigate associated adverse environmental impacts.</p> <p>The organization shall periodically review and, where necessary, revise, its emergency preparedness and response procedures, in particular, after the occurrence of accidents or emergency situations.</p> <p>The organization shall also periodically test such procedures where practicable.</p>	<p>BNL Emergency Plan</p> <p>BNL Hazard Assessment</p> <p>Spill Response Subject Area</p> <p>Stop Work Subject Area</p> <p>Emergency Preparedness Subject Area</p> <p>Work Planning and Control for Experiments and Operations Subject Area</p> <p>Groundwater Protection Contingency Plan</p> <p>Events & Issues Management Subject Area</p>	<p>The EENS Directorate follows the laboratory program for identifying potential, and responding to actual accidents/emergency situations, and preventing/mitigating associated environmental impacts. These include the following:</p> <p><u>BNL Emergency Plan</u>, – (not currently on web; contact Emergency Management.)</p> <p><u>Spill Response Subject Area</u></p> <p><u>Emergency Preparedness Subject Area and Lessons Learned Program</u></p> <ul style="list-style-type: none"> Each EENS building has a Local Emergency Plan posted, in support of BNL's Local Emergency Program. These are reviewed/updated by the Local Emergency Coordinator, and maintained by Research Operations. They are revised if necessary as a result of change, critique or an occurrence. Each EENS 90-Day Area has a posted Contingency Plan, which is reviewed/updated by the 90-Day Area Manager and maintained by Research Operations. EENS staff participates in the BNL Emergency Response Drills, as required. Staff receives the Emergency Planning & Response Computer-based Training (CBT). <u>Work Planning and Control for Experiments and Operations</u> requirements, which are followed by staff, includes emergency preparedness and response considerations, and is reviewed by the ECR, as appropriate.
<p>4.5.1 Monitoring & Measurement</p> <p>The organization shall establish, implement and maintain a procedure to monitor and measure, on a regular basis, the key characteristics of its operations that can have a significant environmental impact. The procedure shall include the documenting of information to monitor performance, applicable operational controls and conformity with the organization's environmental objectives and targets.</p> <p>The organization shall ensure that calibrated or verified monitoring and measuring equipment is used and maintained and shall retain associated records.</p>	<p>Environmental Monitoring Subject Area (plus specific compliance subject areas for additional monitoring requirements)</p> <p>Environmental Assessments & ESH Management Review Subject Area</p> <p>BNL Self Evaluation Report</p> <p>BNL Site Environmental Report</p> <p>Integrated Planning Management System Description</p> <p>Calibration Subject Area</p>	<p>EENS objectives & targets are identified in ESH Management Plan(s) and are tracked primarily via Family Assessment Tracking System (FATS). Tier I Inspections are tracked and results are periodically evaluated. The EMS program is reviewed via the Management Review.</p> <p>Monitoring equipment identified on Operational Control Forms (OCFs) owned/maintained by the EENS Directorate is calibrated per the Calibration Subject Area. Monitoring equipment identified on OCFs controlled by other organizations (e.g. ESH&Q Directorate) is subject to their individual calibration programs.</p>

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<p>4.5.2 – Evaluation of compliance</p> <p>4.5.2.1 - Consistent with its commitment to compliance, the organization shall establish, implement and maintain a procedure(s) for periodically evaluating compliance with applicable legal requirements. The organization shall keep records of the results of the periodic evaluations.</p> <p>4.5.2.2 The organization shall evaluate compliance with other requirements to which it subscribes. The organization may wish to combine this evaluation with the evaluation of legal compliance referred to in 4.5.2.1 or to establish a separate procedure(s). The organization shall keep records of the results of the periodic evaluations.</p>	<p>Environmental Assessments & ESH Management Review Subject Area</p> <p>BNL Self Evaluation Report</p> <p>Annual Topical Environmental Compliance Assessments</p> <p>BHSO Special Environmental Compliance Assessments</p> <p>Outside regulatory compliance audits (e.g., NYSDEC Annual RCRA Audit, NYSDEC Spill Div., NYSDEC Chemical Bulk Storage Tank Audit, Suffolk County Dept. of Health Services)</p> <p>Independent Oversight Assessments</p> <p>ESH&Q (Tier I) Inspection Subject Area</p>	<p>Specific monitoring/measurement activities are identified on ES&H Management Plan(s) as appropriate, in support of BNL contract performance measures.</p> <p>Periodic evaluation of environmental compliance is conducted according to <u>Environmental Assessments Subject Area</u>. Findings are tracked via the Action Tracking System (ATS) identifying responsible person and due date.</p> <p>Tier I Inspections of “research” areas are conducted quarterly. The Tier I Team typically includes the ECR and EMS Rep. Tier I summary is included in the Management Review.</p> <p>Compliance Issues are incorporated into the EENS Management Review.</p>
<p>4.5.3 – Nonconformity, corrective action and preventative action</p> <p>The organization shall establish, implement and maintain procedures for dealing with actual and potential nonconformities and for taking corrective action and preventive action. The procedures shall define requirements for</p> <ol style="list-style-type: none"> identifying and correcting nonconformities and taking actions to mitigate their environmental impacts, investigating nonconformities, determining their causes and taking actions in order to avoid their recurrence, evaluating the need for actions to prevent nonconformities and implementing appropriate actions designed to avoid their occurrence, recording the results of corrective actions and preventive actions taken, and reviewing the effectiveness of corrective actions and preventative actions taken. <p>Actions taken shall be appropriate to the magnitude of the problems and the environmental impacts encountered.</p> <p>The organization shall ensure that any necessary changes are made to environmental management systems documentation.</p>	<p>Nonconformances, Identifying and Reporting Subject Area</p> <p>Events & Issues Management Subject Area</p> <p>BNL Occurrence Reporting System</p> <p>BNL Lessons Learned Program</p> <p>Lessons Learned Subject Area & Webpage</p> <p>BNL Assessment Tracking System</p>	<p>The <u>BNL Events & Issues Management and Nonconformances, Identifying and Reporting Subject Areas</u> define the procedures relating to identifying, investigating, and taking corrective and/or preventative action relating to non-conformances. Lab wide corrective actions are typically handled through the ATS and ORPS Reporting. Departmental corrective actions may be handled through our Tier I process and other methods deemed appropriate by management. Employees report potential non-conformances or improvement activities to their supervisor or any member of the Research Operations Office or via Lab-wide processes.</p>
<p>4.5.4 Control of Records</p> <p>The organization shall establish and maintain records as necessary to demonstrate conformity to the requirements of its environmental management system and of this International Standard, and the results achieved.</p> <p>The organization shall establish, implement and maintain a procedure(s) for the identification, storage, protection, retrieval, retention and disposal of records.</p> <p>Records shall be and remain legible, identifiable and traceable.</p>	<p>Records Management System</p> <p>Records Management Subject Area</p> <p>Brookhaven Training Management System (BTMS)</p> <p>BNL Assessment Tracking System (ATS)</p>	<p>Directorate level EMS records are maintained by Research Operations. Record retention period guidance is provided through the <u>Records Management Subject Area</u>.</p>

ISO 14001 REQUIREMENTS	BNL PROGRAM ELEMENTS	EENS PROGRAM ELEMENTS
<p>4.5.5 Internal Audit</p> <p>The organization shall ensure that internal audits of the environmental management system are conducted at planned intervals to</p> <ol style="list-style-type: none"> determine whether the environmental management system <ol style="list-style-type: none"> conforms to planned arrangements for environmental management including the requirements of this International Standard, and has been properly implemented and is maintained, and provide information on the results of audits to management. <ul style="list-style-type: none"> Audit program(s) shall be planned, established, implemented and maintained by the organization, taking into consideration the environmental importance of the operation(s) concerned and the results of previous audits. Audit procedure(s) shall be established, implemented and maintained that address the <ul style="list-style-type: none"> responsibilities and requirements for planning and conducting audits, reporting results and retaining associated records, determination of audit criteria, scope, frequency and methods. Selection of auditors and conduct of audits shall ensure objectivity and the impartiality of the audit process. 	<p>Integrated Assessment Program</p> <p>Environmental Assessments & EMS Management Review Subject Area – EMS Assessment</p> <p>Integrated Assessment Subject Area</p>	<p>The Directorate EMS is assessed periodically to ensure conformance to EMS via the Internal Audit.</p> <p>EENS participates in Lab-wide assessments, the schedule may vary based on the environmental importance of the activity and previous audit findings/past performance. Additional scheduled audits will be in compliance with the BNL Environmental Assessments Subject Area. Tier I Inspections are conducted quarterly for research activities and facilities that have a potential to impact the environment.</p> <p>The EMS Reps are responsible for coordinating audits/assessments, reporting the results (to management via the Management Review), and follow-up.</p>
<p>4.6 MANAGEMENT REVIEW</p> <p>Top management shall review the organizations environmental management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness. Reviews shall include assessing opportunities for improvement and the need for changes to the environmental management system, including the environmental policy and environmental objectives and targets. Records of the management reviews shall be retained.</p> <p>Input to management reviews shall include</p> <ol style="list-style-type: none"> results of internal audits and evaluations of compliance with legal requirements and with other requirements to which the organization subscribes, communication(s) from external interested parties, including complaints, the environmental performance of the organization the extent to which objectives and targets have been met, status of corrective and preventative actions, follow-up actions from previous management actions changing circumstances, including developments in legal and other requirements related to its environmental aspect, and recommendations for improvement <p>The outputs from management reviews shall include any decisions and actions related to possible changes to environmental policy, objectives, targets and other elements of the environmental management system, consistent with the commitment to continual improvement.</p>	<p>Environmental Assessments & EMS Management Review Subject Area</p>	<p>EENS Management has regular meetings (for example, Direct Reports, Direct Reports Plus Staff) at which the status of the EENS EMS is described and updated as needed. The EMS Reps provide these updates so that management remains cognizant of the EMS on a continuing basis.</p> <p>Management reviews are scheduled annually. The participants/invitees include, at a minimum, the EENS ALD, Department Chairs, EMS Reps, DOE Facility Rep., and ESH Committee members. The EMS Reps coordinate the Management Review. The agenda is defined in the <u>Environmental Assessments & Management Review Subject Area</u>.</p>

Attachment 1
EENS Documents Table
(Internal Controlled Documents & Records Management Subject Area followed)

Documents	Location		Prepare/ Review/ Revise	Approval	Contact/ Cognizant Mgr.	Revision Schedule	Retention Schedule**
	Active	Inactive					
EMS Manual	Web/RO	Web/RO	ESH Committee EMS Rep	ALD*	EMS Rep	Reviewed/revised as needed, at a minimum annually, or after environmental or applicable occurrence or audit finding.	ENV-1.K.1
ES&H Management Plans	Web/RO	RO	EMS Rep./ECR/ ESH Committee	ALD*	EMS Rep/ECR	Reviewed/revised as needed, at a minimum annually, or after environmental or applicable occurrence or finding or change in significant aspects/impacts.	ENV-1.K.1
OCFs	Web/RO	RO	ECR/EMS Rep./ ESH Committee	EMS Rep.	EMS Rep/ECR	Reviewed/revised as needed, and annually at a minimum.	ENV-1.K.1
LE Plan	Bldgs./RO	RO	Local Emergency Coords.(LECs)/ESH Coordinator	RO Fac. Mgr.	LEC	Reviewed/revised as needed, and at a minimum annually &/or after applicable occurrence/finding.	ENV-1.K.1
Contingency Plan	90-Day Areas/RO	RO	90-Day Area Mgrs.	ES&H Coord./ ECR	90-Day Mgr.	Reviewed/revised as needed and at a minimum annually and/or after applicable occurrence/ finding.	ENV-1.K.1
FUAs	SBMS	SBMS	BM/RO Fac. Mgr.	Line Mgmt.	F&O FUA Steward	Reviewed/revised as needed, and when processes change.	ENV-1.K.1
Aspects List	Web/RO	RO	ECR/ESH Committee	EMS Rep.	EMS Rep.	Reviewed/revised as needed and at a minimum annually.	ENV-1.K.1

*Indicates Line Management concurrence, as appropriate.

**BNL Site-Specific Retention Schedule